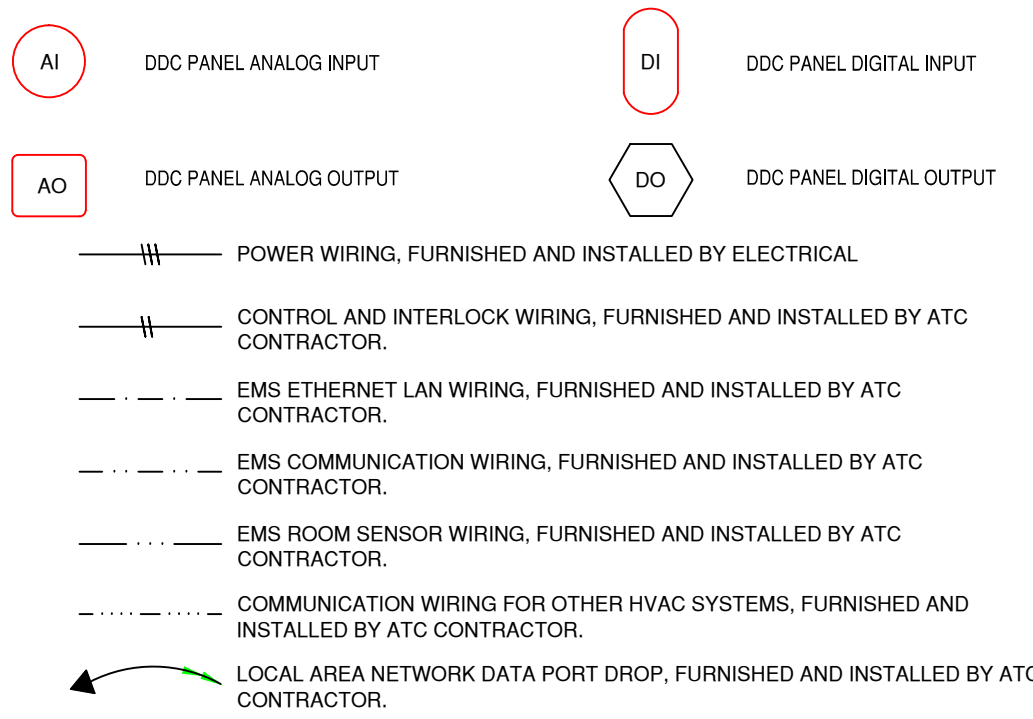
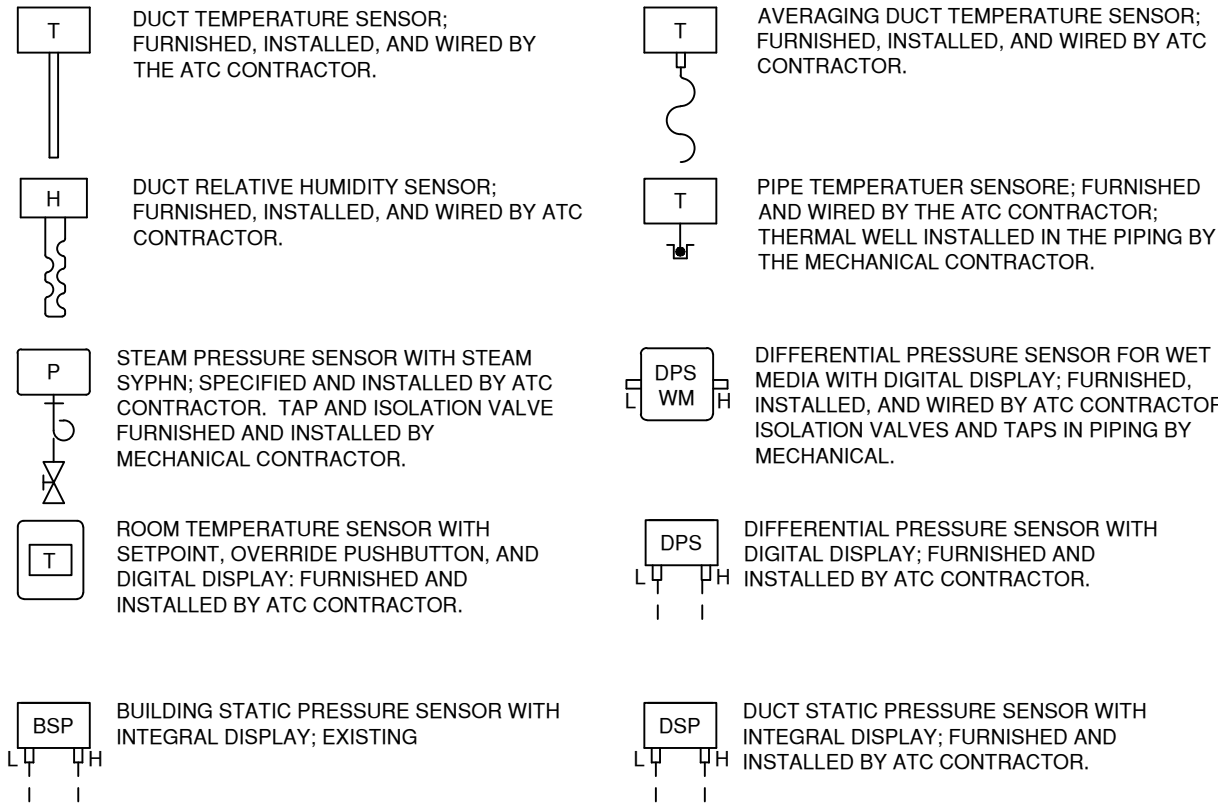


GENERAL NOTES APPLICABLE TO ALL CONTROL DIAGRAMS:

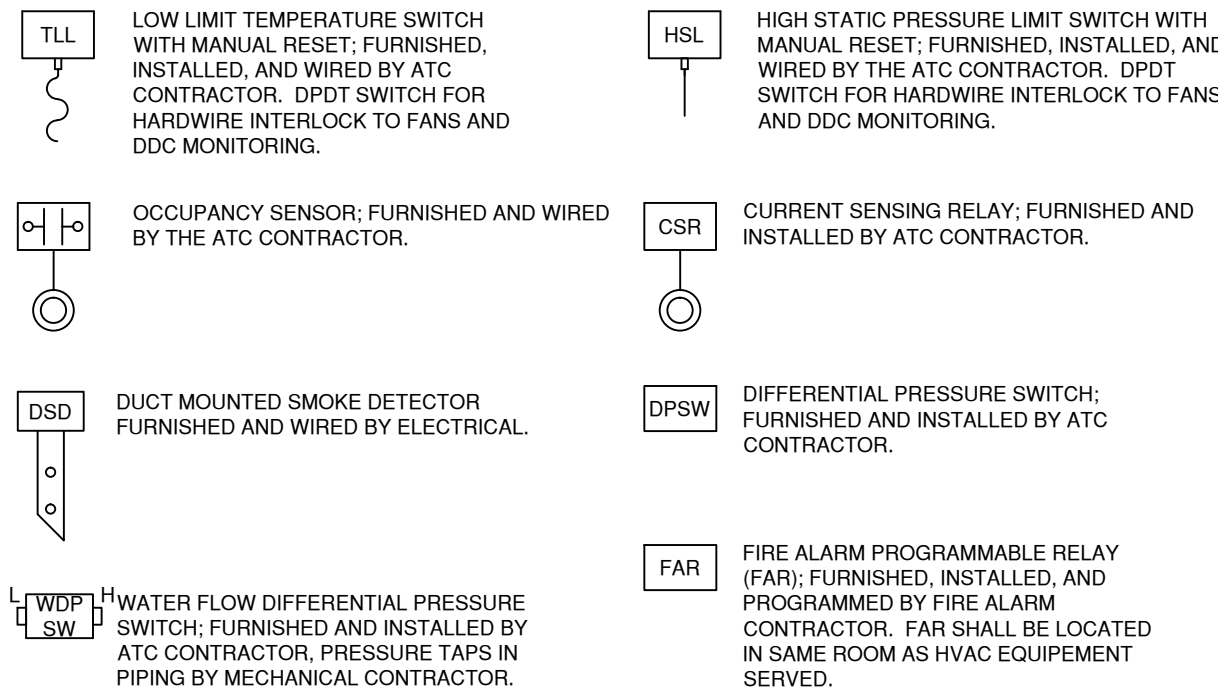
- ALL CONTROL DEVICES SHOWN ON THE CONTROL DIAGRAMS ARE FURNISHED BY THE ATC CONTRACTOR UNLESS OTHERWISE NOTED OR SPECIFIED.
- ALL COMPONENTS REQUIRED TO ACCOMPLISH THE SEQUENCES OF OPERATION SHOWN ON THE CONTROL DIAGRAMS, DESCRIBED IN THE SPECIFICATION, OR AS REQUIRED FOR A PROPERLY OPERATING SYSTEM SHALL BE FURNISHED AND INSTALLED BY THE ATC CONTRACTOR UNLESS OTHERWISE NOTED, SHOWN, OR SPECIFIED.
- ALL COMPONENTS REQUIRED FOR INTERFACE WITH EQUIPMENT SHOWN TO COMMUNICATE WITH THE EMS AND/OR DDC SHALL BE FURNISHED BY THE ATC CONTRACTOR UNLESS OTHERWISE NOTED OR SPECIFIED. EXAMPLE - ELECTRICAL POWER MONITORING SYSTEM IS PROVIDED WITH A MODBUS RS-485 COMMUNICATION INTERFACE. THE ATC CONTRACTOR SHALL FURNISH AND INSTALL A MODBUS TO BACNET OR LON PROTOCOL TRANSLATOR FOR INCLUSION OF POWER MONITORING POINTS INTO EMS.
- ALL POWER WIRING FOR SENSORS, ACTUATORS, AND OTHER CONTROL DEVICES FURNISHED BY THE ATC CONTRACTOR AND AS REQUIRED FOR THE EMS AND/OR DDC SYSTEMS SHALL BE FURNISHED AND INSTALLED BY THE ATC CONTRACTOR UNLESS OTHERWISE SHOWN, NOTED, OR SPECIFIED.
- ALL POWER WIRING FOR SENSORS, ACTUATORS, AND OTHER DEVICES SHALL BE FROM THE DDC PANEL OR THE FEP PANEL OF THE ASSOCIATED SYSTEM.
- ALL RACEWAY FOR THE CONTROL, INTERLOCK, AND POWER WIRING SHALL BE INSTALLED PER THE ELECTRICAL SPECIFICATION.
- ALL CONTROL POINTS SHOWN ON THE CONTROL DIAGRAMS SHALL BE PROVIDED AND INTEGRATED INTO AN EMS SYSTEM GRAPHIC REPRESENTATIVE OF THE CONTROL DIAGRAMS.
- ALL SETPOINTS SHALL BE ADJUSTABLE FROM THE EMS SYSTEM GRAPHIC AND LOCALLY AT THE DDC PANELS.
- SPACE SETPOINTS SHALL BE ADJUSTABLE FROM THE ROOM SENSOR WHERE SHOWN ON DRAWINGS OR SPECIFIED.
- THE EMS SYSTEM GRAPHICS SHALL BE LINKED WITH ASSOCIATED BUILDING FLOOR PLANS FROM THE SPACE SENSOR OR AREA SERVED.
- WHERE ONE SYSTEM IS ASSOCIATED WITH ANOTHER SYSTEM, THE SYSTEM GRAPHIC SHALL BE LINKED TO THE ASSOCIATED GRAPHIC AS WELL AS THE BUILDING FLOOR PLAN GRAPHIC. EXAMPLE - AN AIR HANDLING UNIT SYSTEM GRAPHIC SHALL BE LINKED TO THE CHILLED WATER SYSTEM GRAPHIC IN ADDITION TO BOTH BEING LINKED TO THE BUILDING FLOOR PLAN.
- THE BUILDING FLOOR PLAN SHALL DISPLAY THE SPACE TEMPERATURE AT EACH SPACE SENSOR LOCATION WITH AREA SERVED DISPLAYED IN SEPARATE COLORS BASED ON THE CONDITION OF THE ZONE. EXAMPLE - ALARM, NORMAL, HIGH OR LOW TEMPERATURE, HIGH OR LOW HUMIDITY, ETC.
- ALL BUILDING FLOOR PLANS AND SYSTEM GRAPHICS SHALL DISPLAY OUTSIDE AIR TEMPERATURE AND HUMIDITY.
- REFER TO THE MECHANICAL PLANS AND SCHEDULES FOR CONTROL VALVES ASSOCIATED WITH THE HVAC SYSTEMS FOR CONFIGURATIONS. (E. 2-WAY, 3-WAY, MIXING, DIVERTING, ETC., AND FLOW REQUIREMENTS.
- VARIABLE FREQUENCY DRIVE FURNISHED BY ATC CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR. REFER TO VARIABLE FREQUENCY DRIVE SCHEDULE.



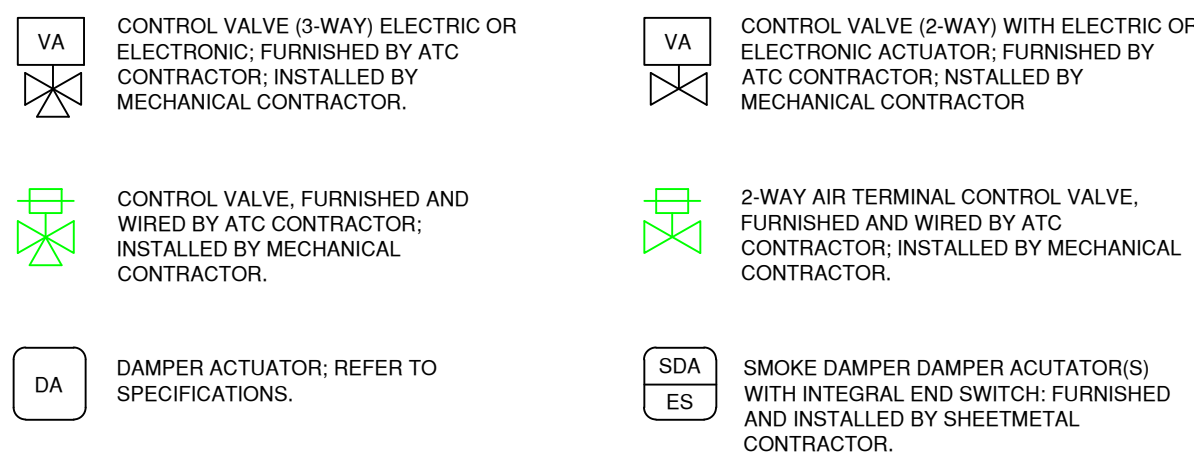
ANALOG INPUT SENSORS



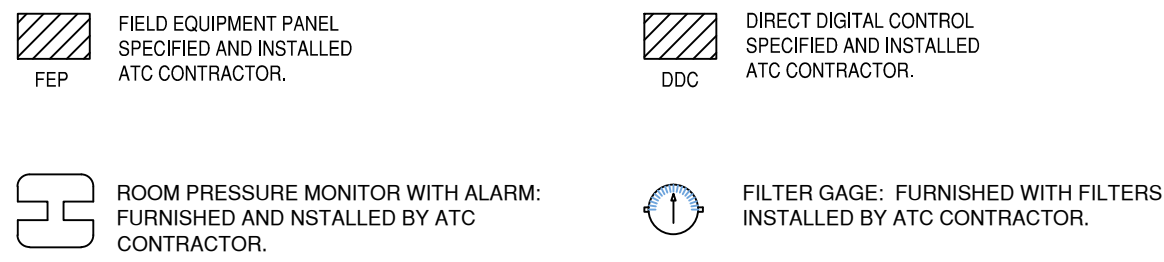
DIGITAL INPUT SENSORS



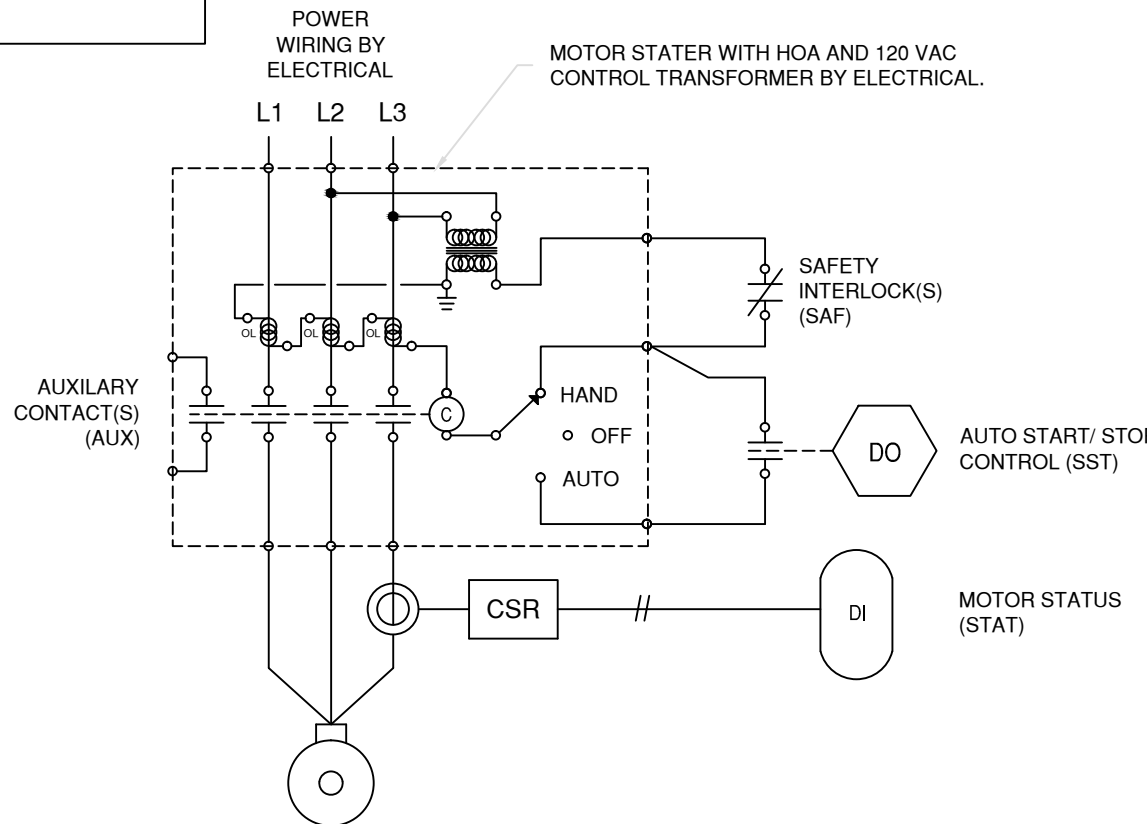
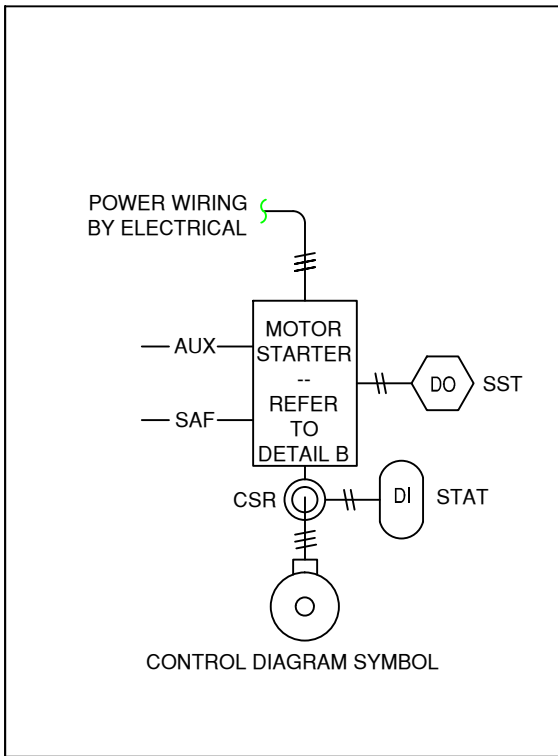
OUTPUT DEVICES



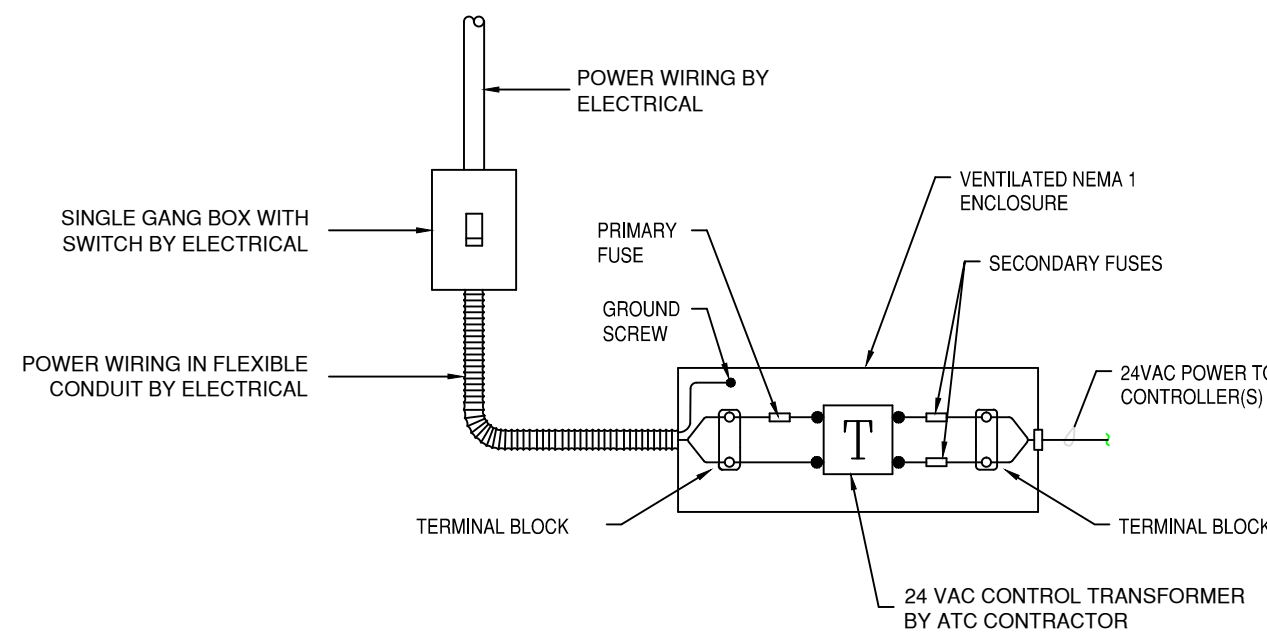
OTHER DEVICES



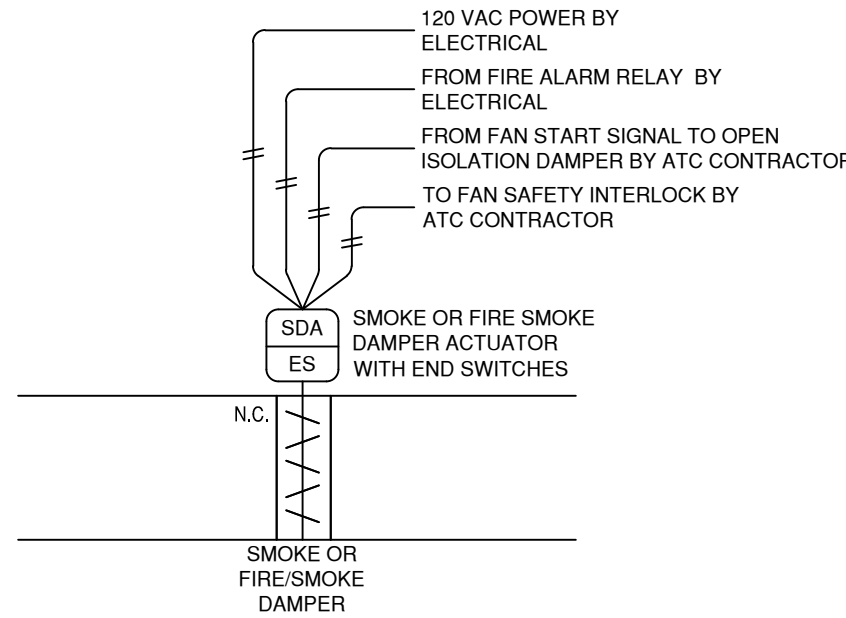
DETAIL: CONTROL SYMBOL LEGEND



DETAIL: MOTOR STARTER INTERLOCK DETAIL



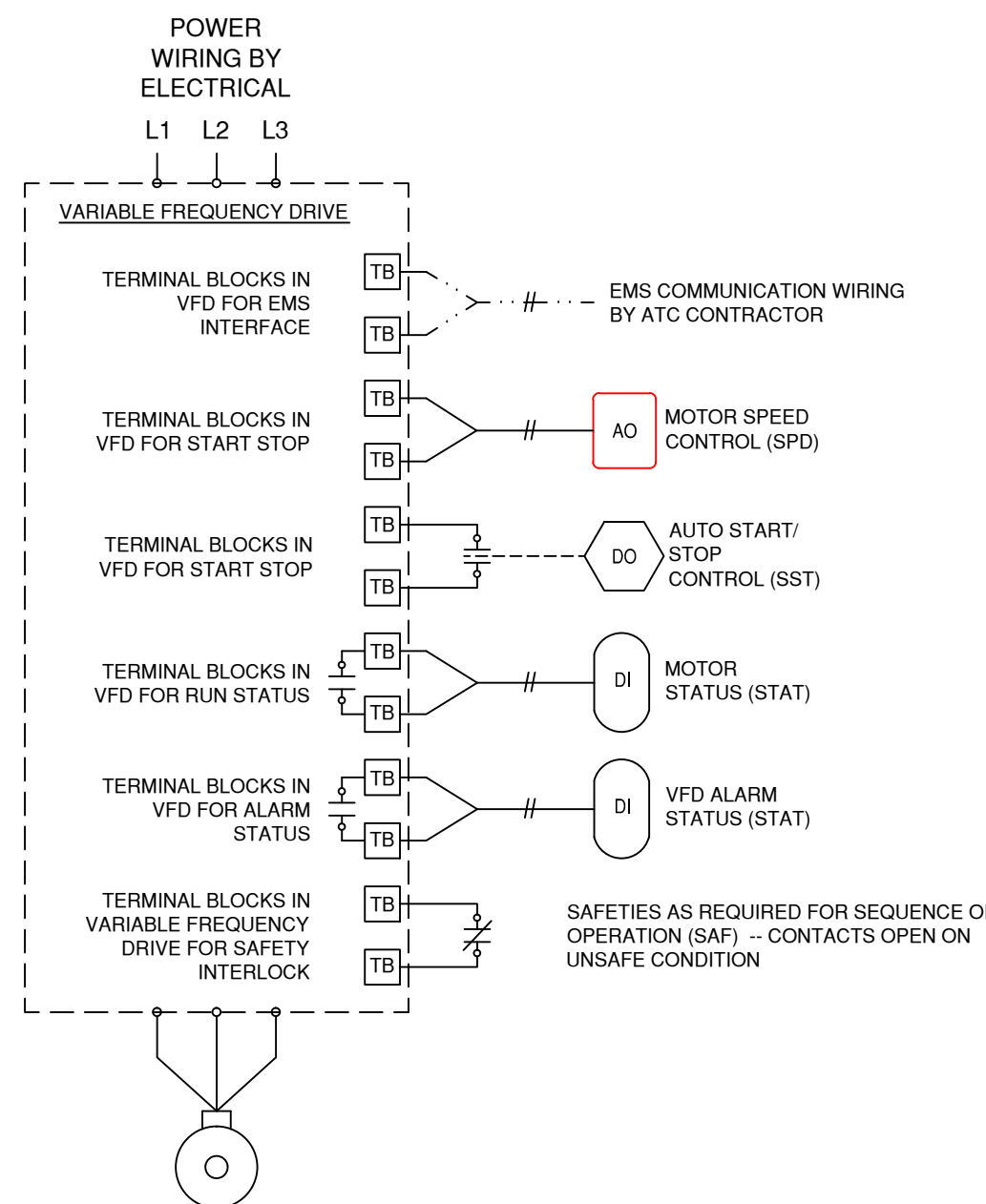
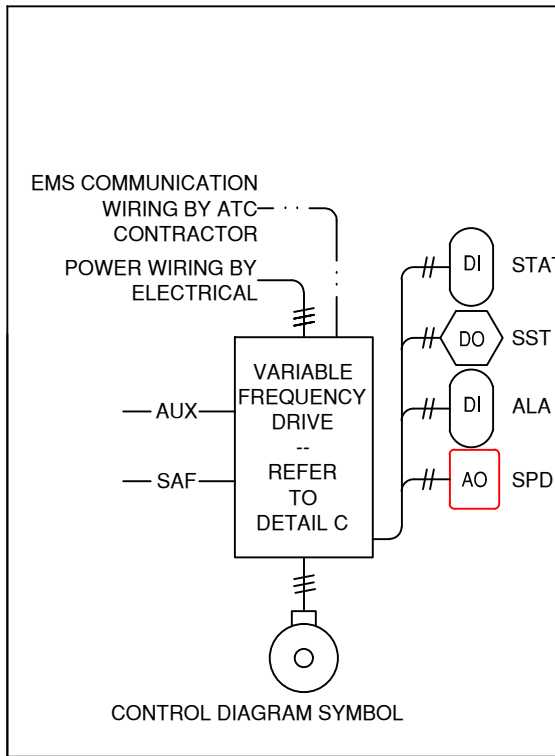
DETAIL: TYPICAL CONTROLLER POWER SUPPLY



NOTES:

- SMOKE OR FIRE SMOKE DAMPER(S) ARE FURNISHED BY THE SHEETMETAL CONTRACTOR WITH ELECTRONIC SPRING RETURN TO CLOSED ACTUATOR(S) AND END SWITCHES.
- SMOKE OR FIRE SMOKE DAMPER(S) ARE INSTALLED BY THE SHEETMETAL CONTRACTOR.
- FIRE ALARM RELAY(S) ARE FURNISHED AND INSTALLED BY ELECTRICAL AT THE SMOKE OR FIRE SMOKE DAMPER ACTUATOR(S).
- INTERLOCK WIRING FROM THE FIRE ALARM RELAY TO THE SMOKE OR FIRE SMOKE DAMPER ACTUATOR(S) IS BY ELECTRICAL.
- WHERE SMOKE OR FIRE SMOKE DAMPERS ARE USED AS ISOLATION DAMPERS FOR AIR HANDLING UNITS THE INTERLOCK WIRING FROM THE FAN START SIGNAL TO OPEN THE ISOLATION SMOKE OR FIRE SMOKE DAMPERS IS BY THE ATC CONTRACTOR.
- INTERLOCK WIRING FROM THE SMOKE OR FIRE SMOKE DAMPER ACTUATOR END SWITCHES TO THE FAN SAFETY CIRCUITS IS BY THE ATC CONTRACTOR.
- END SWITCHES ARE FURNISHED AND INSTALLED BY ATC CONTRACTOR.

DETAIL: AIR HANDLING UNIT SMOKE OR FIRE SMOKE DAMPER INTERLOCK



DETAIL: VARIABLE FREQUENCY DRIVE INTERLOCK

USE APPLICABLE DETAILS

Revisions	Date

Approved: Medical Center Director
Approved: Associate Director
Approved: Chief Of Staff

Seals

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Drawing Title
CONTROLS - HVAC

Project Title
JLM MEMORIAL VETERAN'S HOSPITAL - EXPAND MICU
Building Number
1-JLM
Location
CAVHS LITTLE ROCK, AR

Date
NOV 2013
Project No.
XXXXX
DRAWING NO.
MH-7R
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